WHAT IS CLAIMED IS:

1. A transgenic knockout mouse whose genome comprises a disruption in the mouse's endogenous melanopsin gene, wherein the disruption prevents the expression of a functional melanopsin protein in cells of the mouse.

2. The transgenic knockout mouse of claim 1, wherein the mouse comprises a homozygous disruption of the melanopsin gene.

3. The method of claim 1, the homozygous disruption results in the transgenic knockout mouse exhibiting an attenuated circadian rhythm phase-shift in response to a light pulse during a dark portion of an environmental dark/light cycle.

4. A cell isolated from the transgenic knockout mouse of claim 1, wherein the genome of the cell comprises a disruption in its endogenous melanopsin gene, and wherein the homozygous disruption prevents the expression of a functional melanopsin protein in said cell.

5. A method for identifying a therapeutic agent for modulating circadian rhythm in a mammal, the method comprising:

administering an agent to a transgenic knockout animal whose genome comprises a disruption in its endogenous melanopsin gene, wherein the disruption prevents the expression of a functional melanopsin protein in cells of the animal and the animal comprises a homozygous disruption of the melanopsin gene; and

selecting an agent that modulates the regulation of circadian rhythm in the animal.

6. The method of claim 5, wherein the knockout animal displays an attenuated circadian rhythm phase-shift response to a light pulse during a dark portion of an environmental dark/light cycle.

7. The method of claim 5, wherein the selecting step comprises selecting an agent that enhances the animal's circadian rhythm phase-shift response to a light pulse during a dark portion of an environmental dark/light cycle.

8. The method of claim 5, wherein the animal is a mouse.

9. A method of modulating circadian rhythm in a mammal in need thereof, the method comprising administering to the mammal an effective amount of the agent selected in claim 5.

10. The method of claim 9, wherein timing of administration of the selected agent is pre-determined to coincide with an appropriate phase of an existing circadian rhythm to produce a selected modulation of the circadian rhythm.

11. The method of claim 9, wherein the selected agent is used to treat or prevent a sleep disorder.

12. The method of claim 9, wherein the mammal has a condition selected from the group selected from insomnia, Seasonal Affective Disorder, Shift Work dysrhythmia, delayed-sleep phase syndrome, and jet-lag.

13. The method of claim 9, wherein the mammal is a human.

14. The method of claim 9, wherein the selected agent is administered in conjunction with melatonin or a compound that suppresses or stimulates melatonin production.

15. The method of claim 9, wherein the selected agent is administered in conjunction with light therapy.

16. A method of modulating circadian rhythm in a mammal in need thereof, the method comprising administering to the mammal an effective amount of a melanopsin modulator.

17. The method of claim 16, wherein timing of administration of the modulator is pre-determined to coincide with an appropriate phase of an existing circadian rhythm to produce a selected modulation of the circadian rhythm.

18. The method of claim 16, wherein the modulator is used to treat or prevent a sleep disorder.

19. The method of claim 16, wherein the mammal has a condition selected from the group selected from insomnia, Seasonal Affective Disorder, Shift Work dysrhythmia, delayed-sleep phase syndrome, and jet-lag.

20. The method of claim 16, wherein the mammal is a human.

21. The method of claim 16, wherein the modulator is administered in conjunction with melatonin or a compound that suppresses or stimulates melatonin production.